

July 31, 2001

## INEEL receives DOE's highest safety recognition

The Idaho National Engineering and Environmental Laboratory has been recognized as the first national laboratory to receive Gold Star status under the U.S. Department of Energy's Voluntary Protection Program.

Gold Star status is the highest safety award that can be achieved by any workplace, whether it is in the DOE complex or in private industry. The INEEL represents one of the largest employee groups in the nation to earn VPP Gold Star status.

The award includes a Gold Star flag, which was presented by DOE Under Secretary Robert Card and DOE Idaho Operations Office Manager Beverly Cook at an official awards ceremony July 12 at the INEEL Site west of Idaho Falls.

"This award represents the culmination of several years of effort by your employees and management," said Card. "Your achievement has gained INEEL formal induction into one of the most select groups in either DOE or the entire private sector regarding excellence in safety performance.

"In reaching this level of safety excellence," Card said, "INEEL has demonstrated extraordinary teaming among unions, contractor management and DOE to identify and resolve safety issues. You are a Star site — the first national laboratory to receive that recognition. However, keep in mind that VPP works because it is principled in a continuous improvement process. That means you have a commitment to

*(Story continues on Page 3.)*



Norm Free photo

PN01-322-01-06

**Unit 1 Voluntary Protection Program leaders, left to right, Scott Archibald, Brenda Andreason, Jim Durrant and Gale Jones raise the VPP Gold Star flag at a recent celebration marking the achievement for the Specific Manufacturing Capability at the Test Area North flagpole.**

## Shipp named president and general manager of INEEL

Bernie Meyers, president and general manager of the Idaho National Engineering and Environmental Laboratory, will leave his position Aug. 1 to return to Bechtel Corporation for a special assignment.

Bill Shipp will become the new INEEL president and general manager. Paul Divjak will succeed Shipp as the INEEL deputy general manager and chief operating officer.

Tom Hash, Bechtel National, Inc., president, announced the change at a Bechtel BWXT Idaho, LLC Board of Managers meeting in Idaho Falls May 8. He complimented Meyers on his accomplishments at the INEEL.

"Bernie's performance in Idaho has been superb," Hash said. "From the beginning, Bechtel BWXT Idaho knew we had a proven leader in Bernie, whose vision and experience would be critical to our performance at the INEEL.

"From day one, Bernie has had an equally talented professional in Bill Shipp at his side. As Laboratory director, Bill's sterling



Bill Shipp

performance assures everyone associated with the INEEL of a smooth and orderly transition."

"The opportunity to lead the team that won the INEEL contract is something I wanted to do because I enjoyed the challenge," Meyers said. "By working with our DOE clients, INEEL employees have helped to define the site's current and future missions. With those missions clear, it is now time for me to complete other corporate responsibilities I have with Bechtel."

Bev Cook, DOE-Idaho Operations Office manager, complimented Meyers on his tenure.

"We knew when this contract started that Bernie would only be here for the first couple of years," Cook said.

"We appreciate having even that much of his time here, and the commitment BBWI made by providing the strong team with Bernie, to support him, and follow on when he left. He is not finished yet.

"We intend to take full advantage of the time he has left with us. Personally, he has been one of the most impressive managers I have ever had the opportunity to work with."

### Recognized leader

Shipp is a principal vice president in Bechtel and an internationally recognized leader in applied science and technology and environmental systems. He has also led the

research and development and commercialization of a range of environmental remediation and nuclear science technologies.

Shipp has played a key role in improving science and technology initiatives in the state of Idaho. In 1999, Gov. Dirk Kempthorne named Shipp as his Idaho Science and Technology Adviser. Shipp will continue in this position as the governor's top adviser on science and technology issues. He is the first person in Idaho history to hold this position.

Before becoming the INEEL Laboratory director, Shipp served as associate laboratory director for the Pacific Northwest National Laboratory's Environmental Technology Division. Shipp will continue in his role as Laboratory director at the INEEL.

### Divjak succeeds Shipp

Paul Divjak, vice president of operations, will succeed Shipp as deputy general manager. Divjak, a principal vice president in Bechtel, has substantial experience managing nuclear, government and commercial projects for the company.

As vice president of Operations at the INEEL, Divjak oversees plant operations and program management of environmental restoration and waste management, as well as operations and maintenance activities at the INEEL's nine site areas.

# Take FIVE

## What are your thoughts as you retire from the INEEL?



**RAY R. WILLIAMS**  
*Retiring after 19 years*

"I'll be glad to get rid of all the difficult checks. I'll miss the people and miss the work. I have been here 19 years altogether. I'm looking forward to new experiences and new horizons, and whatever else you do when your life suddenly changes."



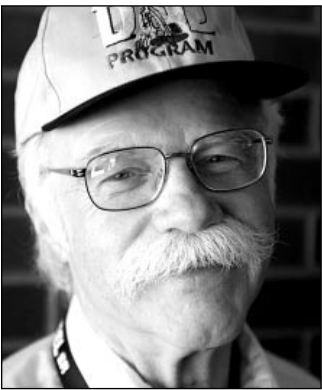
**KAREN WOJNAROWICZ**  
*Retiring after 10 years*

"I'll really miss my friends, the people I work with. I'm going to take the summer off, then find something to do part time in the fall – someplace besides out in the desert where you have 13-hour days."



**DIANA WHALEY**  
*Retiring after 22 years*

"I feel very very relieved I don't have to set that alarm clock. My parting thought, I said to Unit 9 but I say to everybody else as well: politeness to others goes a long way and it will cost you nothing."



**ROBERT MULLIN**  
*Retiring after 25 years*

"It's been a wonderful job. I've enjoyed working here. I'm going to miss all my friends, that's going to be the biggest adjustment. I've got lots of things I'm looking forward to doing – more skiing, kayaking and rafting, and I may even take up golf again. Establishing new groups of friends, people to talk to every day – that's going to be the most difficult."



**MARY HUDSON**  
*Retiring after 24 years*

"I've enjoyed my 24 years with the Site. I had many bosses, many buildings, some good experiences and some bad experiences. Some people I will miss and some I'm glad I won't have to associate with."



**LARRY TORGERSON**  
*Retiring after 34 years*

"Restoration of the soul. I've been here since '67. I've seen good times and I've seen the not-so-good times. I've had a lot of fun. My wife even said I was having an affair – with my job – and I probably was."

# Letters to the editor

## Long shot proves successful

I didn't know who to send this to, but I wanted to Thank the INEEL for the Trading Post. Saturday, June 30, we were headed to the St. Anthony Sand Dunes and when we got there we realized that we were missing a bag which contained approximately \$600 to \$700 worth of motocross gear. The tailgate on the

pickup had come down without us knowing it and we lost the bag.

I came in to work on Monday and thought it was a long shot putting it in the Trading Post, but decided to. Within 2-3 hours, my kids received a call from Rick Thompson who works at IRC and he had found our bag. We got it returned.

**Desiree Hale**  
**Test Reactor Area**





Ron Paarmann photo

PN01-228-1-28

**Anita Bailey, left, shares the excitement of handing over the INEEL Safety Expo grand prize, a bicycle, to her son, Shane, as Danni Clark, upper left, and Julia Townsend, upper right, join in the celebration.**

## Bike safety booth

### Youngster elated to win Safety Expo Unit 9 prize

**by Liberty Toledo**  
**INEEL Communications intern**

Julia Townsend and Danni Clark stood in profound thought after drawing the winning ticket for the Unit 9 Safety Expo grand prize. The name "Shane" and an incomplete phone number could only identify the winner of the grand prize.

With approximately 1,500 entries, Townsend and Clark debated whether to throw out the incomplete form or draw another one.

"Something just kept us from drawing another one," Townsend said, "so I said, 'Let's just call right now and see if we get the number right.'" The search began as they attempted to complete the mysterious phone number.

#### Dialing the numbers

Surprisingly, the number they dialed was answered by a woman, Shane's mother. She identified her son as Shane Bailey, then proceeded to listen to Townsend explain that Shane was the winner of the grand prize: a new bike. "She didn't believe me and kept asking me if I was kidding," Townsend said. "When she finally realized it was real, she began crying, telling me how I had just made her and Shane's day."

Shane Bailey, a nine-year-old Cloverdale Elementary student, had been asking for a bike since Christmas, but his parents couldn't afford one. Shane followed his interest in bikes to the Safety Expo held at the Grand Teton Mall on May 17-18. There, he participated in the Unit 9 Bike Safety booth by identifying safety hazards of an old bike on display. By doing this, Shane and all participants were automatically entered to win several prizes related to bike, skateboard and scooter safety, including the grand prize bike.

Shane's mother, Anita, was so excited about Shane winning that she was in tears and at one point had to stop talking so she could compose herself. "Danni and I were in tears hearing her reaction and knowing that this couldn't have been given to a better family or child," Townsend added.

With excitement in the air, several of Unit 9 employees decided to take part in celebrating this event. They collected \$39 in donations for a helmet, a lock, and gloves so Shane could ride safely. They took their donations to Bill's Bike Shop, where owner Stan Murdock, graciously contributed to their cause. He gave them over \$50 worth of merchandise for the amount of their collected donations.

"He said he was happy knowing that this bike was going to someone who actually needed a bike, and was glad he could be a part of it," Townsend said.

The excitement didn't stop there. Townsend, Clark and Shane's mother arranged a time to surprise Shane with the bike and accessories. They agreed to meet at the Willow Creek Building the same time as the other prize recipients. Shane's mother told him the trip to WCB was to meet a friend. Instead, Townsend came out with the bike. She asked Shane if he remembered signing up to win it. He said he didn't remember. Townsend reminded him about the safety booth and told him he won the bike. "I did," he said with excitement.

After Townsend and Clark presented the bike, helmet, lock and gloves to Shane in the WCB Lobby, he became so thrilled he immediately rode his bike outside the building, with his safety equipment on, of course. "It's good to know that we can make a difference and help the community through the Safety Expo and that we as employees can be a part of something so important, our safety and the safety of others," Townsend said.

## Gold Star achievement

*continued from Page 1*

continuously improve upon what you have already accomplished."

"We admire the tenacity with which our contractor and its employees took on the task of making safety INEEL's highest priority, and the outstanding success they've demonstrated in earning Voluntary Protection Program Gold Star recognition. Intensive scrutiny this year by the Department of Energy's VPP evaluators confirmed that success," said Cook. "It is clear to me that INEEL employees are serious about safety in the workplace."

Bernie Meyers, president and general manager of the INEEL, accepted the award on behalf of INEEL employees.

#### Demonstrates successes

"I want to thank every INEEL employee for your efforts and attention to safety that were needed to obtain this very special honor," Meyers said. "This recognition not only acknowledges our commitment to safety, it demonstrates the successes we can achieve when we all work together."

The DOE-VPP promotes safety and health excellence through cooperative efforts among labor, management and government at DOE contractor sites. In January 1994, the Department of Energy approved the initiation of the Voluntary Protection Program. The DOE VPP program is patterned after the U.S. Occupational Safety and Health Administration's VPP program. The cornerstone of the program is joint participation among management, labor and government in the creation of a safe workplace.

There are two levels of recognition in the DOE-VPP: Gold Star and Silver Star. Contractors whose programs meet the requirements for outstanding safety and health programs receive Gold recognition, the highest achievement level. Contractors with highly effective programs, who commit themselves to attain Star status within a five-year period, receive Silver Star recognition. Once approved, Gold Star sites are evaluated every three years, while Silver Star sites are evaluated annually.

Attaining the Star designation was a several-year process for the INEEL. The first level in the three-step process was programmatic review. The review assessed the completeness of the safety and health program infrastructure within the INEEL. The second step was employee and management surveys and interviews. The surveys were used to determine the degree to which employees and managers are involved in safety program development and implementation.

#### Perseverance, dedication

The final step was a DOE on-site assessment earlier this year. The assessment included walkthrough and hazard recognition reviews at the INEEL. The reviews were used to assess the degree to which workplace hazards had been identified, mitigated and controlled.

"I'd like to thank the people for their perseverance and their dedication to their safety and the safety of their coworkers," said Sharon Chivers who managed the VPP effort. "VPP is a people program, and our people earned this recognition."

## Counterintelligence warning

# Be aware of potential insider threats

by Bruce Allbright  
for iNews

Intelligence collection is escalating around the world, and American core technologies are the primary target.

The U.S. continues to significantly outspend other countries in funding basic research that in turn increases this country's attractiveness for economic espionage. Espionage can occur from an insider or an outsider. This article addresses the insider threat.

"Insiders are people we trust," says Jack Way of INEEL Counterintelligence. "Many have security clearances and many are high performers. During Counterintelligence briefings to INEEL audiences, the insider threat is presented as one of the most difficult threats to identify."

Employees and contractors — whether citizens or foreign nationals who have access to INEEL resources — can intentionally or unintentionally expose information and provide access to unauthorized individuals, Way says.

### Sharing resources

Unintentional indicators are sharing passwords, sharing resources on the network, improper escorting of visitors, inappropriate e-mail messages or similar activities. Intentional indicators are attempts to obtain information without a need to know, excessive use of copying equipment, unauthorized removal of classified/sensitive unclassified information, or similar activities.

"Any of these people can act based on a variety of reasons including personal beliefs, malicious intent, or social engineering by an external agent," Way says.

Because of highly publicized espionage cases like alleged spy FBI Special Agent Robert Hanssen, it seems reasonable that Americans would be deterred from participating in espionage. In fact, celebrated cases seem to encourage others to become involved. History

shows that spying has been around for a long time; many say it is the second oldest profession.

According to a survey taken between 1988 and 1994, approximately 75 percent of all reported incidents of economic espionage were attributable to employees or former employees with access to sensitive information.

In cases involving national security between 1975 and 2000, the United States charged 140 individuals with espionage. Of these, 80 were U.S. citizens with security clearances, 35 were U.S. citizens or resident aliens with no security clearance, and the remaining 25 were foreign nationals.

### Reasons for spying complex

Why do people decide to betray their country/company? Nearly all motivations can be grouped into four categories — money, ideology, ingratiation and disgruntlement. Of these four, money (the most common motive) and disgruntlement appear to be increasing as reasons for betrayal, and ideology and ingratiation are declining.

"Although it is tempting to put motivation for spying into neat boxes, as with any human activity, the real reasons are generally far more complex than money or ideology," says Todd Masse, DOE Office of Counterintelligence.

Three recent cases offer a historical perspective to realistically relate the threat without causing paranoia on the part of INEEL employees:

- Special Agent Robert P. Hanssen, only the third FBI agent ever accused of espionage, is alleged to have begun spying for the then-Soviet Union in October 1985 and continued until his arrest in February 2001. Hanssen allegedly provided a significant amount of highly classified information to the Russians. Special Agent Hanssen worked mostly in Counterintelligence during his career. He recently pleaded guilty to spying for the former Soviet Union and Russia.

- A food services worker — Fausto Estrada at MasterCard International headquarters — was arrested for allegedly trying to sell a billion-dollar trade secret to the company's chief competitor, VISA. He planned to tell VISA about a confidential business alliance proposal between MasterCard and Disney Corp. VISA called the FBI and Estrada was arrested and charged with theft of trade secrets, mail fraud and interstate transportation of stolen property.

- In May, the FBI arrested two employees of Lucent Technologies, Inc., and an executive at another New Jersey technology company on charges that they conspired to steal Lucent trade secrets and pass them on to a telecommunications company controlled by the Chinese government. Lucent is the United States' largest maker of communications equipment.

The Fortune 1000 corporations in the United States lose more than \$45 billion worth of proprietary information to theft each year, according to the American Society for Industrial Security. The number of reported incidents of theft grows each year.

### Security urges awareness

"The INEEL has been fortunate to not have any reportable incidents during the past decade," Way says. "But espionage activities designed to steal secret or proprietary information from our government and our country's industries and businesses are as intense as ever."

"We as INEEL employees must always be vigilant of our surroundings and our actions. Remember JDLR (just doesn't look right)."

Contact your Counterintelligence office, 526-2223, 526-3661, 526-4023 or the Security office, 526-0952, if you have any questions or concerns. For additional examples or more information about espionage, check out the INEEL Counterintelligence home page at <http://wantnot.inel.gov/ci>.

## Eastern Idaho students compete in Robo Challenge 2001

by Tasha Taylor  
for iNews

The Robo Challenge is an annual event coordinated by the INEEL's Pre-college Education Department. This year's Robo Challenge -- in its fifth year -- was a much larger event than any of the previous competitions. Marge Foster, Professional-Technical Education Coordinator for school districts 91 and 93, ventured that this year's competition was "the biggest and best ever."

This year's competition, held May 2, distinguished itself in several ways. First, the grade range of students eligible to participate expanded. Previous competitions included only seventh- through 10th-graders, but this year, the competition was opened to sixth- through 12th-graders.

Second, a more advanced competition was added. This new event, called "GrowBots," consisted of building a robot that would make its way through an obstacle course.

Third, more sponsors supported the Robo Challenge this year than in any of the previous years. This year's sponsors included the INEEL Robotics Department, the INEEL Pre-College Education Department, Eastern Idaho Cooperative Service Agency, Idaho State Department of Education, Idaho State Division of Professional-Technical Education, Eastern Idaho Technical College, and Hillcrest High School.

### Intense fun

Jan Hill, Education Services coordinator of the Pre-College Education Department, says that the students -- as determined and

competitive as ever -- were intense during the deployment of the technologies they created. She said, "The kids really got into it." Besides being fun, the competition requires a significant amount of their time and energy. Because of this, she says, students take pride in their projects.

### 100 students compete

Approximately 100 students from nine schools in southeastern Idaho entered the Robo Challenge in the form of teams. First-, second- and third-place winners were named for all three competitions. The first-place winner of the sixth- seventh- and eighth-grade division for the "Mars Rovers" competition was a team from Sandcreek Middle School. First place in the ninth-grade division for the "SmartBots" was a team from Taylorview Junior High School.

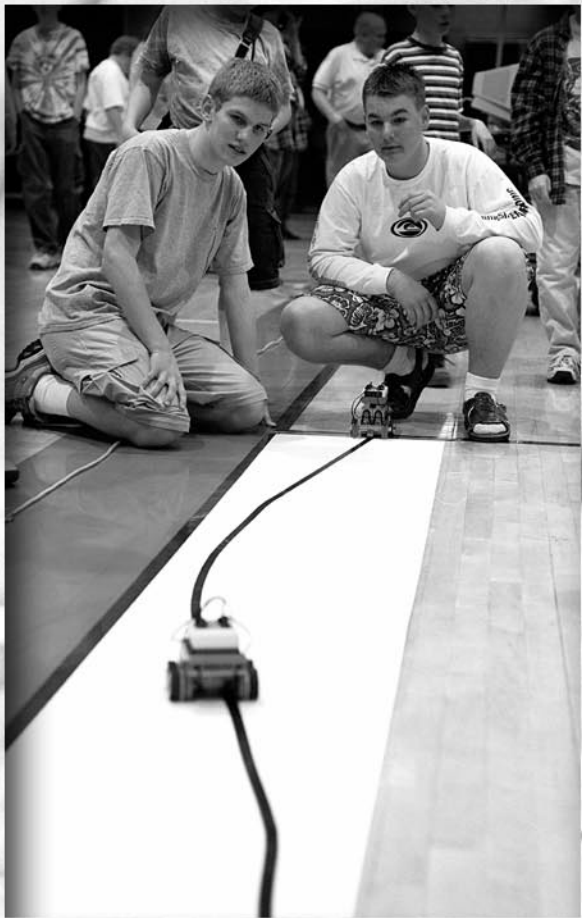
The first-place winner of the 10th-, 11th- and 12th-grade division for the "GrowBots" was a team from Hillcrest High School.

Whether the students won or not, being involved in the competition was a positive experience for them, according to Robo Challenge coordinators. All students who participated learned about math, science and research. The competition gave them an opportunity to compete using their ingenuity and intelligence.

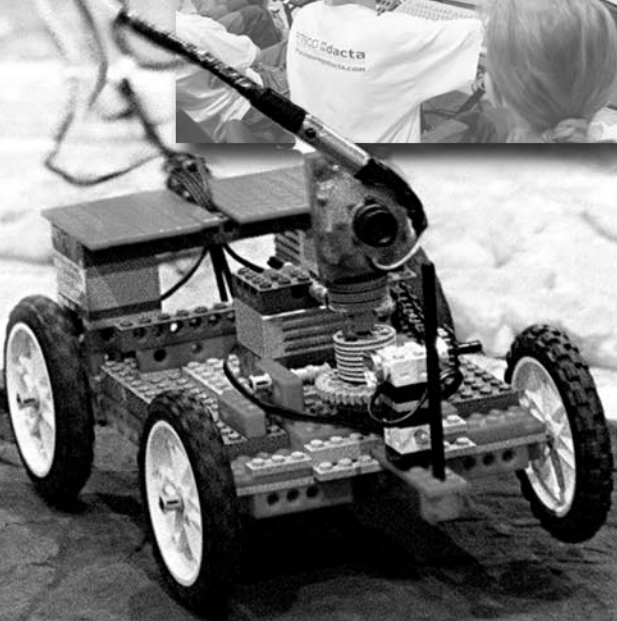
The students also had the opportunity to be instructed and mentored by scientists and engineers from the Robotics Department at the INEEL. The participation and dedication of these scientists and engineers, especially Matt Anderson and Mark McKay, made the competition possible.

(See photo collage on next page.)

Hillcrest  
**ROBO**  
CONTEST



Norm Free photos  
PN01-176 series







Mike Crane photo

PD0102-97-01

**Forty concrete trucks and two pumper units were recently used for a continuous pour of 470 cubic yards of concrete for the walls of the Low Scatter Lab, part of the new Health Physics Instrumentation Laboratory being constructed at Central Facilities Area.**

## Concrete pour adds height to instrumentation lab

The Low Scatter Lab, a 15,500-square-foot facility being constructed at Central Facilities Area, will include six Automated Irradiator Systems that will provide expanded neutron, gamma, X-ray irradiation capabilities needed to support INEEL programs.

The lab is a 33-foot-tall circular room with three-foot-thick walls designed for extremely accurate calibration of radiation detection instruments. The concrete pour by Ovard Construction, prime subcontractor, lasted from 5 a.m. until 2 p.m. and was completed safely and without incident. Construction on the HPIL began in March and the new facility is expected to open in Fiscal Year 2003.

It also provides calibration and repair services for all portable radiation detection instruments at the INEEL, along with calibrating and repairing fixed instruments that aren't calibrated by operational facilities. The facility will replace the current lab housed in the 50-year-old CFA-633 building.

## ZGF Partnership

### Design firm chosen for new Subsurface Geosciences Laboratory

by Deborah Hill  
for iNews

The Zimmer-Gunsul-Frasca (ZGF) Partnership has been awarded the conceptual design contract for a unique, state-of-the-art geosciences research facility at the Department of Energy's Idaho National Engineering and Environmental Laboratory. ZGF specializes in award-winning laboratory design.

#### Advancing geoscience research

INEEL plans to build an approximately 200,000-square-foot research laboratory in Idaho Falls designed to advance geoscience research. The Subsurface Geosciences Laboratory (SGL) will include a unique array of equipment and capabilities, giving researchers new tools to better understand how contaminants interact with their surroundings, change over time, and move through soil and groundwater. INEEL plans to use such knowledge to develop more accurate predictive models and more effective approaches to environmental remediation. ZGF will complete the conceptual design for the facility by Jan. 14, 2002.

The new facility will enable researchers to advance the fundamental understanding of biological, geological, chemical, and physical processes that affect contaminant behavior in the subsurface.

The ZGF team includes a range of consultants with expertise in laboratory design and previous experience in working with the U.S. Department of Energy. Consultants include Earl Walls Associates for laboratory programming, planning and design. Ove Arup will lead mechanical, electrical, and structural engineering design including plans for specialized vibration-insulated laboratory space, audio visual, communications and acoustical facility components. CH2M Hill will lead civil engineering design; Rolf Jensen & Associates will lead life-safety code design compliance, and Davis Langdon Adamson firm will lead project cost estimating.

The defining characteristic of the SGL is a focus on mesoscale research-experiments sometimes significantly larger than those now performed in traditional laboratories designed to mimic complex, real-world processes. Researchers are developing experimental plans for tanks as large as 20-60 feet on a side and 10-30 feet deep.

The mesoscale approach is a sober acknowledgement of the complexity of the subsurface and a necessary next step for geoscience. Through such research, scientists can take what they have learned in small-scale bench work and test their ideas in controlled, nearly field-scale environments, fleshing out what we already know about contaminants in the subsurface. Larger-scale research will enable scientists to better capture the incredibly broad range of information needed to make predictive models more accurate. They will be able to develop more effective approaches to environmental remediation, and novel instrumentation for monitoring the long-term effects of such remediation techniques

#### Conceptual design

The conceptual design of the SGL is the first step in a multi-step process that will result in a new facility by 2007. Each step of the process, from conceptual design to engineering design to actual construction, requires approval by DOE, extensive scientific peer review and most importantly, funding from Congress.

"This may seem like a long and arduous process, but the end result, a new national user facility at INEEL with unique equipment and experimental capabilities, will be worth the effort," said Ray Stults, INEEL Associate Laboratory director. "We will have new capability to solve complex environmental problems, attract visiting scientists from around the world to collaborate with staff at INEEL and make INEEL an international center for subsurface science research."

"Our scientists are designing crucial experiments needed to better understand the movement of contaminants in the subsurface,

but there just isn't an available facility with the right equipment to conduct this kind of large-scale science," said Bill Shipp, INEEL Laboratory director. The SGL user-facility will provide the entire scientific community with critical tools needed to make progress in deciphering the complex subsurface.

INEEL intends to leverage the capabilities of the new facility through collaborations with researchers from universities and other DOE national laboratories.

#### Complex subsurface problems

"There is just no way that we or any other organization can have all the expertise to solve the many complex problems posed by the movement of contaminants in the subsurface," said Michael Wright, INEEL Subsurface Science Initiative director. "Strategic alliances and collaborations are vital in leveraging our home capabilities and enhancing the INEEL's value to the DOE and the nation."

The mesoscale facilities offered by the SGL will create new opportunities for discovery that will directly benefit DOE's search for solutions to long-term contamination problems.

"Mesoscale research is the logical next step to take," Wright said, "because you just can't take lab-scale measurements and use them in field-scale experiments or computer simulations." That is comparable to studying a desktop aquarium to predict what is happening in the ocean — the data usually doesn't translate in a useful way.

"There will be an immediate impact on our research activities once construction of the SGL is completed," Shipp said. "We will be able to implement well-thought-out experimental campaigns designed by teams of researchers not only from INEEL but from other national laboratories and universities. The answers gained from these campaigns will also provide information needed to support the long-term stewardship of DOE lands and implementation of long-term remediation strategies."

## Counselor contemplates Workings of the mind in troubled times

When I consider the present situation and the changes occurring at the INEEL, I think of the opening line of Charles Dickens' "Tale of Two Cities," "It was the worst of times and the best of times."

Bearing in mind the question — "Are these troubled times?" — I recently read a response that said, "Let's put it this way: Many people I know in the late 1990s sleep like babies — they wake up every two hours and cry."

As I have considered retirement, voluntary and involuntary plans, I have had mixed feelings. I would assume there have been a multitude of reactions throughout most of the INEEL population. How do you process information like this? Are you immobilized or energized?

### What's the outlook?

I have tried to look at this situation as I do the weather. How do we treat the weather? We try to find out as much as we can about what's coming, but we keep its unpredictability in mind. We prepare for extremes as wisely as possible. We grieve any losses it causes us, and celebrate the lovely spring days and quiet summer evenings it gives us. And never once do we take it personally, think that the weather is out to get us, or that lousy weather means that somehow we have failed. We just know that it's not personal.

What if we dealt with change that way? When the company announces it must reduce the work force, it should be evident that this is not personal — it is mostly, "Just Business."



Jim  
Scott

Don't give your power to the problems of a changing environment.

Treat it like the weather: maybe you need to fill sandbags, maybe you'll have to relocate to town. But you don't have to waste energy screaming at the river. That's the essential difference between reacting to a situation and responding to it.

### Two stories

I have also learned that during troubled times, there always seem to be two stories about what happens. There's what happens, and there's the story I tell myself about what happens. They are not the same. If you are to treat the situation like the weather, and think it through, you have to make sure that you know the difference between the facts at hand, and the story you are constructing about those

facts. Most people, most of the time, live in the story they are telling themselves about the moment, rather than the moment itself ... which means they miss (or misinterpret) any detail that doesn't fit the story line. The stories are not the same and you must be careful.

Finally, Aristotle said, "We are what we repeatedly do." Excellence, then, is a habit, not an act. You may pick up new ideas by reading books and publications (maybe reading this column), or talking to a counselor or a friend. But knowing an idea is not enough. To make it work in your life, you have to put it on daily, practice "as if" it were part of your armor, until one day it is.

### Use the force

Remember the famous scene in "Star Wars: The Empire Strikes Back," in which Yoda, the wise ancient Jedi Knight, is telling young Luke Skywalker that he can raise his starship from the swamp it has sunk into by using the force. Luke says, "I'll try." Yoda says, with some contempt, "No try. Do or do not. There is no try."

Only when we exert ourselves daily to use new ideas will they become habits, new, strong, and useful parts of ourselves.

If you're having trouble making strategies work; or strategies that used to work aren't working now; or you're just not handling things well, make an appointment with the Employee Assistance Program by calling 526-0218.

## Education, science professionals plan 2001 Expo in Idaho Falls on Oct. 3

A team of INEEL and other education and science professionals is planning the region's first Science and Engineering Expo to take place in October in Idaho Falls.

The kick-off date for Science and Engineering Expo 2001 is Oct. 3, which coincides with the annual conference of the Idaho Science Teachers Association, "2001: A Science Odyssey," also being held in Idaho Falls. Science and Engineering Expo 2001 will be an educational event held in conjunction with the ISTA conference.

Robert Ballard, discoverer of the Titanic, will be the ISTA conference keynote speaker. Astronaut Tom Jones and National Science Teachers Association President Harold Pratt are other featured speakers.

### Mentors, scientists

The Expo will bring together technical mentors and scientists of the Idaho National Engineering and Environmental Laboratory and other area science-based industries, regional universities, public school teachers and students, and various groups in the scientific community.

"Our objectives are to showcase the science and engineering technology of the INEEL and other science-based industries, and to champion the technical expertise making southeast Idaho a high-technology corridor," said Elda Zounar, Expo co-chair.

"Science and Engineering Expo is being piloted this year, but we aim to broaden it in

future years. Next year, we will host it in partnership with the Bonneville County Historical Society in its new expanded facility, and the community of Idaho Falls," Zounar said.

The eventual goal is to create a science and engineering event that attracts participants from throughout the Pacific Northwest, she said.

### Several audiences

The Expo will appeal to several audiences, including the public, university faculty and students, pre-college teachers and students, home-school teachers and students, INEEL and other science-based industry employees, elected officials and other community members.

Idaho teachers have two days off in the first week of October, traditionally used for in-service work and earning education credits. The ISTA annual conference will draw teachers from across the state for a wide variety of sessions. Conference session topics will include forensics, nuclear science, mining, biology, water, natural heritage, evolution and using science links in the classroom.

The exposition will feature a science fair, hands-on science demonstrations, a robotics competition and many other exhibits. It will offer a variety of guest speakers, presentations and recognition events.

For more information, contact Zounar (526-4491, zouned@inel.gov).

## Bechtel Telecommunications, INEEL collaborate on technologies

Bechtel Telecommunications announced an agreement with the INEEL to research and test new wireline and wireless products and technologies, including 3G wireless voice and data networks, data security, cyber security, encryption and interoperability.

The agreement marks the first collaboration for telecommunications projects between Bechtel Telecommunications — one of the world's leading telecommunications engineering, construction, and project management firms — and the INEEL, which has nationally recognized R&D capabilities, including supercomputer research work performed in support of DOE missions.

The collaboration includes performing both independent and commercial research on evolving telecommunications standards and technologies for Bechtel's telecom customers and their vendors.

Research and testing will be conducted in cooperation with the Bechtel Telecoms Training, Demonstration and Research lab. The TDR lab is located at Bechtel Telecoms' headquarters in Frederick, Md. The new lab will be fully operational in September.

Under the agreement, Bechtel will design and build a 3G wireless network test bed at the INEEL for wireless operators to perform extensive operational tests of 3G systems prior to market deployment. INEEL's expertise in data network security will be available to Bechtel and its customers for testing of various types of industry security technologies and methodologies.

# Bechtel names INEEL scholarship winners

Bechtel has announced 15 scholarships awarded to sons and daughters of employees at the Idaho National Engineering and Environmental Laboratory.

Offered through two scholarship programs, the Bechtel Systems and Infrastructure, Inc. (BSII) Citizen Scholars Program, awarded 12 of the 22 scholarships and both of the top two, to children of INEEL employees.

The scholarships reward both academic achievement and community service and can be used for one year of full-time study at an accredited institution of the student's choice.

Scholarship recipients were selected on the basis of academic record, demonstrated leadership and participation in school and volunteer community activities, honors, work experience, goals and aspirations stated in the application, unusual personal or family circumstances, and an outside appraisal.

The two scholarship programs, the winners and their INEEL parents are listed here.

**BSII Citizen Scholars Program**

BSII offers 22 scholarships each year including 20 awards of \$2,000 each and two awards of \$5,000.

These are the \$5,000 scholarship winners:

- Joseph Elias, son of Gracy Elias, will attend Rice University, majoring in chemistry/pre-medicine.
- Jessica Ward, daughter of Thomas Ward, plans to attend Duke University, majoring in biology.

These are the local \$2,000 scholarship winners:

- Laura Anderson, daughter of Gregory Anderson, plans to attend Brigham Young University-Idaho, majoring in elementary education.
- Melissa Hillman, daughter of Michael Hillman, plans to attend Utah State University, majoring in engineering.

- Ryan Honsinger, son of Robert Honsinger, will attend the University of Idaho, majoring in mechanical engineering.
- Cami Johnson, daughter of Blaine Johnson, plans to attend the University of Idaho, majoring in biological systems engineering.
- Aaron Luptak, son of Alan Luptak, will attend the University of Alaska Fairbanks, majoring in computer science.
- Lindsay Nelson, daughter of William R. Nelson, will attend Seattle Pacific University, majoring in biochemistry.
- Kandis Olson, daughter of Craig Olson, will attend Brigham Young University, majoring in graphic design.
- Kelly Paulson, daughter of Gerald Paulson, plans to attend Stanford University, majoring in science/tech in society.
- Kristyn Shaw, daughter of Peter Shaw, will attend the University of Findlay, majoring in pre-med.
- David Swenson, son of Michael Swenson, will attend Brigham Young University, majoring in biochemistry.

## Bechtel Global Scholars Awards

New in 2001, this scholarship program is offered on behalf of the Bechtel Foundation. Of the 25 students receiving the \$2,000 awards, three went to local recipients:

- Andrew Hubbell, son of Joel Hubbell, plans to attend Montana State University. His major is undecided.
- Adam Ostby, son of David and Paula Ostby, will attend Montana State University, majoring in chemical engineering.
- Michael Pao, son of Tai-Fei and Jenn-Hai Pao, will attend the University of Pennsylvania, majoring in electrical engineering and finance.

## New Mexico gives INEEL good news about WIPP shipments

The Idaho National Engineering and Environmental Laboratory has received a key certification that allows the Laboratory to access the majority of transuranic waste in storage at the Radioactive Waste Management Complex for characterization and certification for shipment to the Waste Isolation Pilot Plant in New Mexico.

Certification allows immediate access to over 60 percent — approximately 9,000 drums — of the stored transuranic waste categorized as inorganic homogenous solids.

It followed a comprehensive audit of the INEEL's program by the Department of Energy's Carlsbad Field Office, the Environmental Protection Agency and the New Mexico Environment Department. The audit looks at INEEL's implementation of the WIPP permit requirements.

The INEEL began characterizing solid waste in March to build a backlog of inventory ready for shipping in anticipation of certification. The buildup in shippable inventory supports increasing the number of shipments to WIPP.

The DOE's INEEL has increased its rate of shipments this summer.

Under an agreement with the state of Idaho, the INEEL must remove 3,100 cubic meters of transuranic waste from the state by Dec. 31, 2002.

To date, the INEEL has made 105 shipments — 627.9 cubic meters of transuranic waste, which is about 20 percent of the total planned for shipment.

# INEEL firefighter wins regional competition

An INEEL firefighter won the Northeast Regional firefighter competition and hopes to win the national firefighter competition this year for a second time.

The competition involved climbing a five-story tower, hoisting, chopping to simulate a forced entry, dragging hoses and rescuing a life-sized 175-pound "victim" as the firefighters raced against themselves, their opponents and the clock.

Kevin Voyles took first place in the Combat Firefighter Challenge at Woodbridge, Va., with a time of 01:32.

"It was great to win," Voyles said. "I feel fortunate because there are a lot of good firemen out there and the competition was intense."

Voyles, stationed at Argonne National Laboratory-West, is a full-performance firefighter qualified in firefighting, rescue, hazardous materials and emergency medical services.

The Combat Firefighter Challenge seeks to encourage firefighter fitness and demonstrate the profession's rigors to the public.

Wearing full bunker gear including an air tank and breathing apparatus, competitors



Kevin Voyles

simulate the physical demands of real-life firefighting by performing a linked series of five tasks.

To capture the event, Voyles completed those tasks in a mere 92 seconds.

"We are proud of Kevin's achievements and the example he sets for other firefighters by participating in this rigorous competition," said INEEL Fire Chief Don Whittaker. "Our firemen take great pride in protecting the people, buildings and equipment at INEEL, and the desert rangeland as well. Kevin's achievement reflects well on our whole department."

Voyles has been a regional champion six times in the past eight years and was national champion in 1998. His next step is competing in other regional competitions, including one this August in Cheyenne, Wyo.

"The INEEL has been very supportive over the years," Voyles said. "They have given me time off to participate, and helped me financially with the cost of competing. The training facilities here also keep me tuned up and ready to compete."

The INEEL and the local Paper, Allied-Industrial, Chemical and Energy Workers International Union (PACE) will jointly fund Voyles' next competition as he seeks a second national firefighter title.



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INEEL Fellow

*Phillip Michael Wright, Ph.D.*

*Distinguished for  
Geothermal Research*

**by Reuel Smith  
for iNews**

Mike Wright earned the distinction of INEEL Fellow upon being selected as the INEEL's first Subsurface Science Initiative director.

This appointment came as a result of his 34-year professional career as a geophysicist. It was during this time that he emerged as a national and international leader in geothermal research, a distinction that continues today.

Wright says he was lured to the INEEL by the challenge of helping to build an enduring capability in Idaho that addresses the enormously complicated problems of subsurface contamination. His technical interest continues to be the integrated interpretation of multidisciplinary earth-science data.

Wright was chosen because of his extensive experience in geoscience, in developing and cultivating research staff, in securing millions of research dollars and in working with the DOE.

Prior to INEEL life, Wright was the deputy director of the Energy & Geoscience Institute at the University of Utah — a program known for world-class research scientists that he helped build over a 23-year period. The team's efforts have made extraordinary contributions to the fields of geothermal geology, geochemistry, geophysics, and remote sensing — including development of modern computer simulation and interpretation techniques.

According to Clay Nichols, DOE-Idaho's chief scientist, Wright "brings an experience base uniquely relevant to the subsurface science missions this laboratory supports. His experience in private sector research

leadership, strong ties to academic institutions and history of DOE-sponsored research provides the right platform to lead the national geoscience efforts under way at the laboratory. His reputation for competency in the technical geoscience community, his business acumen and integrity make his addition to the INEEL a cause for optimism and celebration."

Before his tenure with the Energy & Geoscience Institute, Wright served 10 years as the technical vice president of the University of Utah Research Institute and was director of the Institute's Earth Science Laboratory for almost 11 years. For more than five years before that, Wright served as the Earth Science Laboratory's associate director.

Wright experienced life as a geophysicist in the mining industry for 11 years before pursuing a scientific research career. He was the chief of Kennecott Exploration's U.S. Operations Geophysics Division for eight years, and worked for three years as a senior geophysicist for Kennecott Exploration Services.

He has served a combined total of 13 years as president of the following organizations: Geothermal Resources Council, National Geothermal Association, Utah Geological Association and Utah Geophysical Society, including the past three years as president of the International Geothermal Association located in Pisa, Italy. He also served two years on the Nevada Geothermal Council Board of Directors.

Wright was honorary co-chairman of the World Geothermal Congress 2000 held in Kyushu and Tohoku, Japan. In 1999, he was an invited lecturer to the United Nations University Geothermal Training Programme in Reykjavik, Iceland. That same year, he

received the Geothermal Resources Council's Special Achievement Award.

He is a member of the American Association for the Advancement of Science; American Geological Institute; American Geophysical Union; Geological Society of America; Society of Exploration Geophysicists; International Geothermal Association; Geothermal Resources Council; and the Utah Geological Association.

Wright earned a bachelor's degree in geological engineering in 1960 and a doctorate in geophysics in 1966 from the University of Utah. Wright's geothermal studies have taken him to most of the country's geothermal resource sites and to those in Mexico, El Salvador, Guatemala, Ecuador, Peru, Chile, China, Japan, the Philippines, Indonesia, New Zealand, Iceland, France, Italy and Turkey.

He has been an active leader within the geothermal industry and the public sector, with federal and state regulators and with Congress to enhance recognition of geothermal energy. He has worked with the U.S. departments of Energy, Commerce, Interior and Defense; the Environmental Protection Agency; U.S. Geological Survey; U.S. Agency for International Development; World Bank; United Nations; the International Energy Agency; and Congress in pursuit of geothermal development.

Wright has given more than 30 oral presentations to U.S. and international audiences covering an array of topics ranging from the need for general education to discussions of dipole-dipole electrical resistivity surveys. He is the principal author of more than 100 papers and technical reports, and the supporting author of an additional 38 papers and technical reports.

## *Postal Service, industry cooperate to test electric delivery vehicles*

The U.S. Department of Energy, through its Field Operations Program, is supporting the U.S. Postal Services' purchase of 500 light-duty electric delivery vehicles from Ford Motor Company by providing vehicle testing and technical support to the USPS.

DOE will spend up to \$2 million for the vehicle testing, data validation, and dissemination of the testing results, to help demonstrate the capabilities of the 500 light-duty electric delivery vehicles. The

vehicle chassis, drive train, batteries, and electric components are all based on the Ford Ranger electric vehicle. The electric delivery vehicles have the same appearance as gasoline-powered USPS delivery vehicles but are quiet and have zero emissions.

The testing and demonstration activities include baseline performance testing, accelerated reliability testing, onboard data collection, field testing at three USPS locations in California and New York, and a final analysis of

the entire 500-vehicle demonstration program. All of the testing results will be available from the Field Operations Program's Web Page (<http://ev.inel.gov/fop>).

### **Baseline testing**

Southern California Edison's Electric Vehicle Technical Center has completed the baseline performance testing on two vehicles and the results are available in the October and December 2000, Quarterly Reports. The report is available at

([http://ev.inel.gov/fop/fpd/us\\_ps\\_12\\_15\\_00.pdf](http://ev.inel.gov/fop/fpd/us_ps_12_15_00.pdf)) or the program's Web Page. The tests included gradeability, maximum speed, several range tests, energy consumption, water hazards and charger performance tests.

Results will assist the USPS in its decision to purchase up to 5,500 additional light-duty electric delivery vehicles from Ford Motor Company, as well as support the overall development and deployment of electric vehicles and electric vehicle charging infrastructure.



George Pomiak

While he was a project manager for General Construction at the INEEL, George Pomiak became the site manager of construction for a nuclear clean-up project in Russia.

The Strategic Arms Reduction Treaties directed the Department of Defense (DOD) — Defense Threat Reduction Agency to help the states of the former Soviet Union dismantle weapons of mass destruction. Subsequently, the DOD and Ministry for Defense Industry of the Russian Federation concluded an agreement concerning cooperation in Strategic Offensive Arms Elimination. The agreement resulted in the development of several projects, one of which is the Low Level Reduction Volume project.

The overall project had two sites in Russia — one at Archangel, which is on the White Sea northeast of St. Petersburg on the 65th parallel, and the other about 4,000 miles away at Bolshoi Kamen on the Sea of Japan.

Pomiak's duties were based at the Bolshoi Kamen site. The project team included the program manager in the Washington, D.C., area, licensed nuclear designers from St. Petersburg, construction management and logistic support from Moscow, major equipment providers from France and Russia, construction subcontractors from throughout Far East Russia such as Vladivostok and Nahodka, and the operating contractor in Bolshoi Kamen.

Pomiak entered the project knowing that the newly formed democratic country would have considerable political risks such as seemingly shifting authority, arbitrary power and contrary decrees. But, he decided to go anyway. Included at the far right are some of his reflections.

by Rick Bolton  
iNews staff

George Pomiak ventured to the other side of the world and returned with a new perspective.

For more than a year, Pomiak worked as a construction project manager on the eastern side of Russia in the closed city of Bolshoi Kamen, near Vladivostok.

When his tour of duty was over, Pomiak felt he had a better view of what is important in life.

Having spent so much time in a country where people have few material possessions, he now places less value on things, and more value on people.

"They are so poor, people use anything creatively," Pomiak says. "If you left a wooden work bench on the job site, it would be gone the next morning. Someone would have taken it home and used it for a kitchen table."

Living and learning about other cultures and people now inspire the INEEL project manager.

"It was a life-changing experience," he says. "It allowed me to be more worldly. I was never an international person. Now I know there is a lot more to our world beyond our boundaries."

After his year-long experience in Russia, he took his teen-age children on a trip to Europe last summer so they, too, could gain a better perspective of the world.

Pomiak learned first-hand about how harsh life can be in a land where people in positions of power often becomes victims of opportunity.

While he was in Russia, local thugs murdered his counterpart, a construction director, during an apparent robbery.

Pomiak found the former Soviet Union stark and often daunting. Yet he found the people engaging, eager to share their food and drink, and proud of their history and culture. He says they are quite open in discussing politics.

Russians in that part of the country have a good diet and access to markets that sell goods from Europe and the Far East. They grow their own fruits and vegetables, and buy inexpensive food from neighboring China.

But in a resource-poor country, with a crumbling infrastructure of roads, utilities and equipment, Pomiak faced daily challenges just to keep the workplace machinery maintained. Electricity was unreliable, so most workplaces have their own power generators.

"From day to day, it was both a headache and a pleasant surprise," he says. "You don't know what to expect every day. That was good, because it helped me focus on my skills to overcome challenges such as keeping workers on schedule with the construction project."

It was difficult to get parts when equipment failed, especially when companies they ordered parts from were no longer in business. But he and the crew of about 80 workers carried on in spite of challenges that included rough weather. The employees worked long, hard hours and even worked through weekends.

"In the long run, everything fell into place and the U.S. and Russian governments were real satisfied with our final product."

He says while life on the far side of the world can be grim, people who live there appreciate any positive aspect of life, such as a good book or music — any music from any part of the world.

**George Pomiak, at right, shows on a map where he lived in Bolshoi Kamen. Below is one of his translators/interpreters with a construction manager who was later killed in a robbery attempt.**



**At right, photo depicts earlier phase of construction site at Bolshoi Kamen Zvezda location.**





**Pomiak and Russian plant capital construction manager inspect progress on the site. At right, Ussiriski Bay (part of the Sea of Japan) can be seen in background.**



Photos courtesy of George Pomiak

"Russians are well-read. They love to read and do crossword puzzles," he says. "It's normal for them to speak many languages and not think it's anything special."

Even though generally they are knowledgeable about America and countries outside their borders, at the same time they are puzzled by the actions of the American government, he says. They want to know why the United States is so involved in local conflicts around the world, such as the conflict in Kosovo.

Even in the relatively remote Bolshoi Kamen — a city roughly the size of Idaho Falls that remains closed to most outsiders — residents were familiar with American popular music and sports celebrities. They were surprised to hear their own celebrities were unknown in America.

He was alone much of the time, but didn't let it bother him.

"I had to understand that the Russian people wanted me to become involved in the local community, and they tried to understand what Americans were like."

In spite of low wages and uncertainties about when or whether they would be paid for their work, Russian citizens don't feel like they are second-class to any other country's citizens, he says. For example, they have world-class expertise in many technologies and industries, and feel Americans — in spite of their economic and military success — shouldn't be arrogant about their accomplishments.

While there, he had a number of opportunities to go places and see things new to him. While cross-country skiing, he saw the tracks of a Siberian tiger.

In a typical day, he might see the sad part of Russian life with people digging through dumpsters for food, and find a happier side in school classrooms filled with youthful optimism.

"Life there is gloomy, and yet it's wonderful," he says. "The older people wonder about the future. They used to live a bit better, but they couldn't trust their neighbors in the old days (under a communist system). The kids are not discouraged. They're innocent and have a refreshing attitude."

Pomiak feels lucky to have been chosen for the Department of Defense project. He was selected in part because of his familiarity with the Ukrainian language — his parents are first-generation Americans from Ukraine and they spoke the language when Pomiak was growing up in Arizona. While Ukrainian and Russian aren't identical, Pomiak could converse well enough to get along in most situations.

In fact, he got along well enough that the then-divorced Pomiak met and dated a Russian woman who has emigrated to America. They were married this summer.

## George Pomiak's thoughts on his year in eastern Russia

"The city (Bolshoi Kamen), with a population of about 50,000, has two streetlights. If there is a third, I don't remember where. Most streets are not paved, cows meander throughout the city, tap water is undrinkable, water availability is always an uncertainty scenario, heating to the apartment units are unreliable, and phone service can be disconnected. Russians are used to this and laugh at the inconveniences."

"There were some astonishing circumstances in just trying to survive. People, in the states, often ask me if they have stuff like we do. In actuality, they have just about everything that is not manufactured in the U.S.A. (too costly for them to have American-made products). I have never seen a golf course or golf clubs, but I saw many hockey rinks and hockey sticks."

"My favorite times include dinner or outdoor shish kabob invitations. I always felt comfortable in their homes. The children are inquisitive and the hosts are very warm. Those adults who can read English always want to get their hands on English-written books such as Agatha Christie's novels and 'The Hobbit.' They study details. They love maps. They liked to look at pictures of American cities and pictures of my personal life. Russians enjoy sharing their family pictures. (And, I mean every Russian family.) We talked about philosophy, raising children, God, school, math competitions, cars, the Mafia, snow skiing, Siberia, Russian history, President Clinton, President Yeltsin then President Putin, catch-and-release fishing, making home made brew, Alaska and the purchase of it from Russia, preparing smoked scallops ...you name it. The little children love practicing their 'hellos' with me."

"The construction workers worked hard under the most amazing circumstances, especially during the winter. They knew what our goals were and carried out those objectives. They deserved and earned my close attention."

"I found the Russian people to be hard-working, interesting, refreshing, unpretentious and learned that the smallest good thing would give them great joy. I have many good memories."

For more about George Pomiak's account of his year in eastern Russia, visit this Web address:

<http://ihome.inel.gov/iNotes/Attachments/pomiak1.htm>



## INEEL Spouses Organization active in local communities

by Liberty Toledo  
INEEL summer intern

When a member of the BBWI Spouses Organization is ill or injured, Diane Ferrell, coordinator of the Cheers and Condolences committee, retrieves her casserole list.

She uses the list to contact members who have volunteered to make dinner, accommodate child care needs and provide other assistance to members who have an illness or injury that prevents them from attending their duties within the family.

Member accommodation may be the reason this organization has more than doubled membership in the past year. In April 2000, BBWI Spouses Organization had 25 members; current membership is approximately 58.

What makes this organization so appealing to Bechtel spouses, according to member Sherill Kowall, is the ability to get involved with the community and meet other spouses. In fact, when Kowall first moved here from Washington, she wanted to be involved in the community, but didn't know anyone.

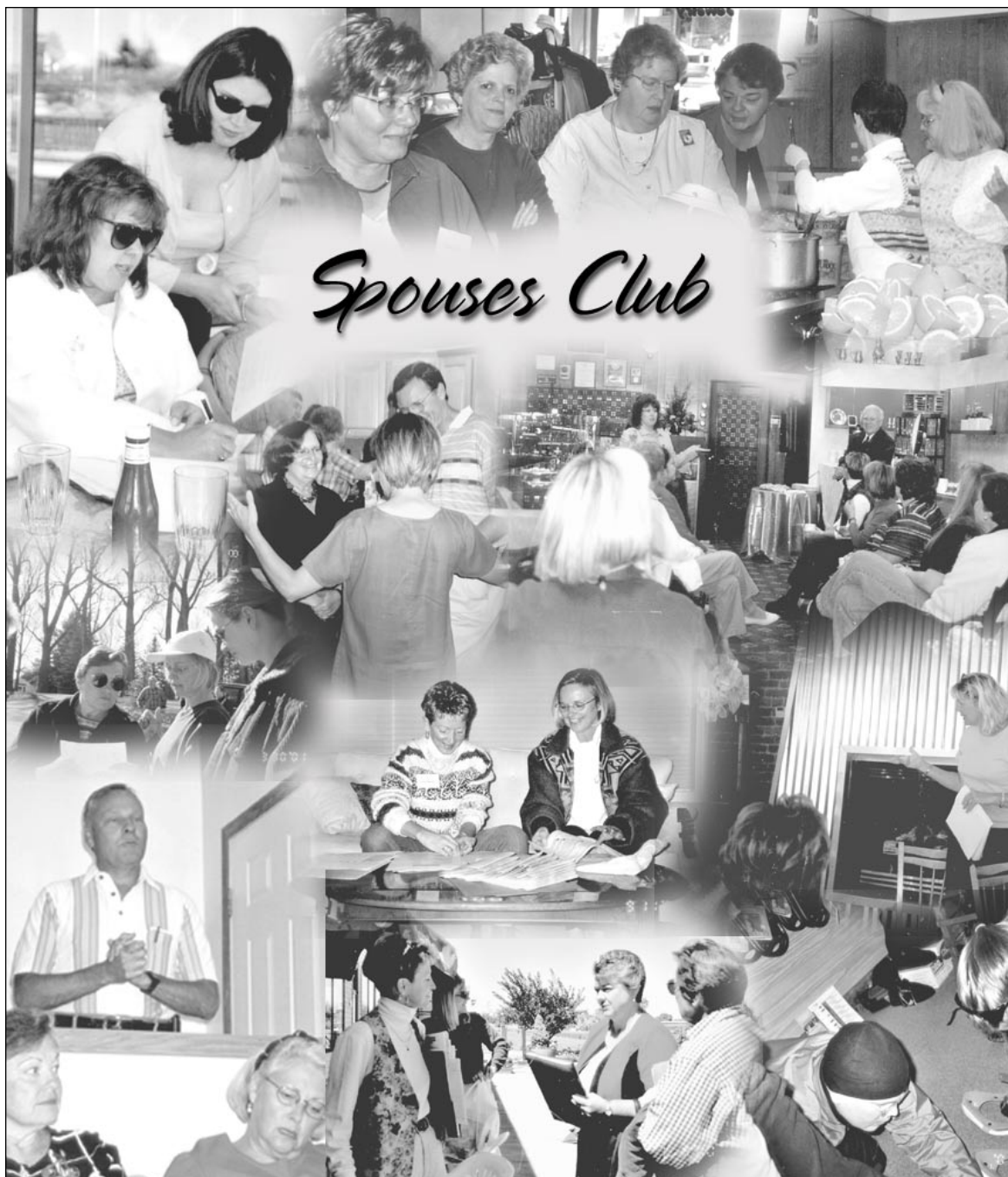
"I heard about this organization and immediately joined," she said. "Other companies my husband has worked for have never provided support like this."

Ferrell agrees. "This organization makes it easy to get involved," she said. "They accommodate the needs of their members, and everyone is very receptive."

The organization is established at each Bechtel Corporation site, and is a long-standing tradition of the corporation. It serves as a volunteer alliance of spouses and employees who are committed to supporting its members and their families, the community and the company, through social, philanthropic and educational volunteer efforts.

During the past year, the organization has participated in several community service projects:

- Assisting American Red Cross Blood Drive.
- Co-sponsoring Mask and Marvels mask contest at Willard Arts Center.
- Providing supplies for local schools via Adopt-a-School program.
- Purchasing awards for the Poster and Quilt contest for Earth Day.
- Supplying a year's worth of food to a Tamarin monkey at the Tautphaus Park Zoo.
- Coordinating its own crew for the St.



Mark's Soup Kitchen to provide meals for low-income and homeless people. The group is in charge of planning, preparing and serving the meals on six Wednesdays a year.

● Tutoring Idaho Falls elementary schools via the reading program.

Through their contributions, the city of Idaho Falls has received 1,343 hours of volunteer service from BBWI Spouses Organization.

In addition to community service projects, members are offered activities such as golf lessons, book and investment clubs, wine-tasting groups and various interest clubs.

According to Kowall, the organization offers spouses an opportunity to become acquainted with other spouses of Bechtel employees and

serves as a springboard into the community.

The spousal organization offers several social activities and is open to all BBWI employees and spouses. Upcoming events include touring historical homes in Idaho Falls, a night out with the Idaho Falls Padres at the ball park, a progressive picnic and participation in the Science Expo.

Co-presidents Linda Monk and Gayle Rosenkoetter hold a general meeting and a board meeting every month at various locations in Idaho Falls. Meetings are scheduled to accommodate both working and nonworking spouses.

Organization membership requires a \$20 annual fee, which can be prorated. For more information, contact Sherill Kowall at 557-0393.

## INEEL employees take part in fun and physics at Lagoon Park

If learning physics is fun, what better place to do it than at Lagoon Amusement Park in Centerville, Utah?

More than 5,000 students from 100 schools in Idaho, Utah, Nevada and Wyoming attended the one-day Physics Day event in May. It was designed as an educational approach to teaching fundamental physics concepts to middle school and high school students, using an amusement

park as a laboratory.

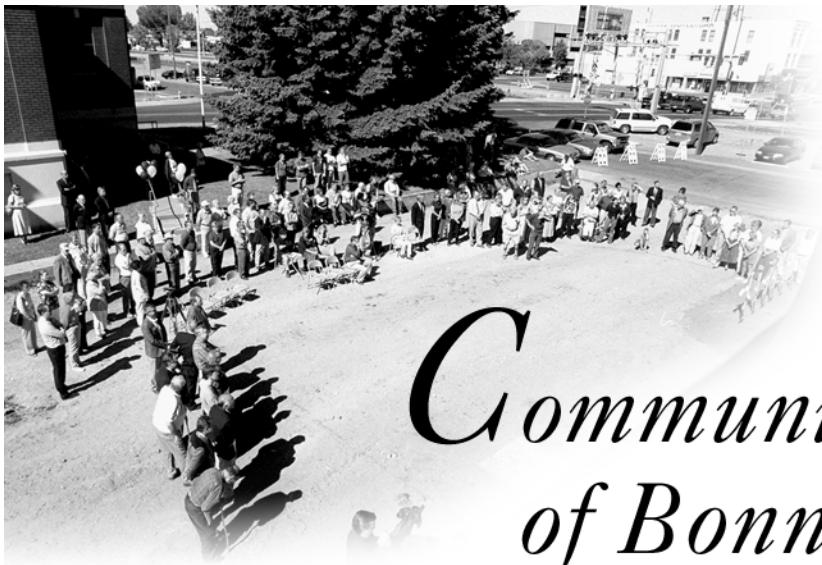
The Idaho National Engineering and Environmental Laboratory, Utah State University, Idaho Space Grant consortium, Thiokol, Boeing, Hansen Planetarium and the Rocky Mountain Space Grant Consortium sponsored Physics Day at Lagoon.

"Amusement parks provide nearly unlimited, illustrative and simple examples of many key

physics concepts for experiments, measurement and problem solving," said Ali Siahpush, advisory engineer/scientist and coordinator of the event for the INEEL.

Students participated in a Colossus Colossal G-Force contest, physics bowl competition, student workbooks, demonstration design, ride design and logo design contests.

Regional schools participating included Skyline High School of Idaho Falls, Twin Falls High School, Grace High School, Hillcrest High School of Idaho Falls, Century High School of Pocatello, Malad High School, Highland High School of Pocatello, Tigert Middle School of Soda Springs and South Fremont High School of St. Anthony.



## Community supports expansion of Bonneville historical museum

The Bonneville Museum kicked off an aggressive expansion June 1 with a groundbreaking ceremony at 200 North Eastern Ave. in Idaho Falls.

Thanks largely to a \$3 million grant from the Carr Foundation for building construction, the museum will expand from 12,000 square feet to 30,700 square feet.

Building expansion will allow the Bonneville County Historical Society to expand the museum's mission. The nonprofit BCHS, which operates the museum, is raising funds and sponsorships throughout the community to develop new exhibits and programs for the new facility, and to support expanded staff and operations.

RSB Construction of Idaho Falls is the building contractor.

The Society will present educational exhibits and programs related to science education, natural environment and the cultural diversity of the region in the new complex. Staff will maintain the museum's traditional role as a historical museum.

Construction is scheduled for completion in the summer of 2002.

New expansion will consist of a connecting structure between the original Carnegie Library Building, which now houses the Bonneville Museum, and the former Masonic

Building, which will be renovated. All three structures will become one integrated educational complex.

The 1916 Carnegie Library Building is on the National Register of Historic Places, and served as the Idaho Falls public library until the mid-1970s.

Rick Dale, INEEL Media Relations and Community Programs manager, said the INEEL will support the museum through science, engineering and cultural resources exhibits.

"We're a strong supporter of educational programs that help eastern Idaho residents and visitors understand the historical and cultural traditions and developments here," Dale said. "We hope those who view the new and expanded museum, including many of our local students, will better understand our history and culture as well as the role the INEEL has played in local history."



Chuck Rice, BCHS board president, said community support will be essential to the overall success of the project.

"I invite the entire community to join the experience in making this museum truly one of a kind," Rice said. "The new complex will serve as an educational and tourist attraction for the entire southeastern region of Idaho. The Society urgently needs the public's support in order to reach this ambitious goal."

For more information about the expansion or other aspects of the museum, call Lois Nickum, museum director, or David Pennock, BCHS executive director, at 522-1400.



Ron Paarmann photos

PN01-0245 series

The INEEL Spouses Organization is sponsoring a "Quick Draw Contest" at the Bonneville Museum for children from kindergarten through sixth grade.

"Children can pick up their entry/drawing paper at the museum, then walk through the museum and draw their favorite thing," said Pam Williams, contest coordinator. The contest will run through Aug. 24, with a prize presentation at 1p.m. that day. All contestants will receive a free pass to the museum and all entries will be displayed. The grand prize is a scooter. Each entry will receive a prize. For more information, call Williams (542-5314) or the museum (522-1400).



## 'Commercial practices,' strong safety performance combine to make INEEL construction dollars go further

by John Howze  
for iNews

INEEL Construction Management is "raising the bar" for safe, cost-efficient, on-time project completion at the Laboratory.

"'Commercial practices' is the key concept for getting the most for our construction dollars," said Paul Divjak, Chief Operating Officer.

"Allowing qualified subcontractors to do work the way the private sector does work — using their own construction, safety and other practices instead of making them learn a new way of doing things — saves time and money and will not compromise safety or quality," Divjak said.

Construction Management has begun using something called the Nine Block process to determine when standard commercial practices can be used — and when more rigorous INEEL requirements and oversight are appropriate instead.

INEEL is testing the waters with construction of a new building for primary use by the Federal Aviation Administration on Site this summer. This and other projects done with the Nine Block graded approach will be watched carefully for safety performance, cost savings and improvement to schedule, said John Howanitz, Construction director.

"We aim to deliver projects as sold," said Jerry Ethridge, vice president of Technical Services. "If we tell a customer we can build project X for amount Y in 18 months, we need to do that. Construction has been working very hard at improving field performance and has made significant progress. As an example, in May of this year, the new Records Storage Facility was completed on time and for less than the budget.

"The Nine Block process will complement this improved performance by offering an even greater opportunity to reduce cost — improving our ability to compete with our peer DOE sites for new missions and budget," Ethridge said.

The cost of construction is given significant consideration

when determining if a new project will be approved and where it will be built. Other DOE sites have already implemented similar commercial practice programs and are noting improved safety performance and significant savings. In some cases, project costs can be reduced by more than half.

### The Nine Block process

Nine Block is a matrix of high, medium, and low risk paired with minimum, moderate and maximum need for Operations interface. New construction that is low risk, and involves minimum interaction with Operations, is typically an ideal opportunity to employ commercial practices.

For commercial type work, industry codes and standards are used for technical guidance. The amount of BBWI oversight and surveillance required is less and the subcontractors use their own work processes that are reviewed and approved by qualified INEEL employees.

A high-risk, maximum interface construction project requires more rigorous oversight, including full-time surveillance and the application of all related INEEL work processes and requirements.

Between these two extremes, seven other levels of rigor in the Nine Block method provide flexibility to choose the correct level of oversight — at appropriate cost. But less oversight doesn't mean zero oversight, as James Pollard, who works in Environmental Safety and Health for Site Services and Infrastructure, will attest.

### Superb safety performance

"One of my biggest concerns as we started this, was that the subcontractors wouldn't step up and take the responsibility — but they're ready," Pollard says. "They've got their safety programs in place and they're glad to take more responsibility for their own safety performance."

"We're working extremely safe," Howanitz said of the 160 BBWI construction employees and their 300 subcontractor counterparts. "For instance, we require our crafts people to use



John Howanitz  
Construction director

the latest technology in tracing equipment so they can find buried utilities and tell if a system is energized from anywhere, before they start to work. Our construction direct-hire craft led by Don Snider is an impressive group and has come up with many of the ideas that are allowing us to work both safe and smart."

In the past nine months, the force account and subcontractor employees have had six months with zero recordables and no lost-time accidents or injuries. "For construction, this may be unprecedented at the INEEL, and it's attributed to a strong, dedicated team with the right attitude . . . that the goal of zero accidents/injuries is achievable," Howanitz said.

It takes constant revisiting and attention, Howanitz said. "We're fortunate to have people like Max Hammond and James Pollard who raise the bar where safety is concerned. Max and Jim walk our projects and identify conditions and work practices that don't match our expectations.

"They immediately share their observations with the craft or subcontractor performing the work," he said. "When you visit these same sites long after their initial visit, it's obvious that Jim and Max (and their team) made a very positive impression."

### Key supporters make it work

One of the key people who has helped improve INEEL performance and develop the Nine Block process is Dave Behrens, Howanitz said. Behrens

heads the field engineering organization overseeing the technical aspects of construction work and ensuring that projects meet customer expectations.

Other contributors include Julie Leavitt and Andrea Gilstrap, who work closely with the Training Directorate, providing computer-based training for construction workers. "They have been instrumental in getting our construction people properly trained before they come on the Site, and as a result, the INEEL may have the most cost-efficient training system for construction craft employees in the DOE complex," Howanitz said.

### Subcontractors suggest savings

The development of the Nine Block process took teamwork. In three extensive sessions, the INEEL subcontracting community submitted some 70 ideas on reducing construction costs without compromising safety and quality. Procurement, ESH&QA, Labor Relations, Engineering, Systems Engineering, Project Management and several other support organizations jumped in with both feet to help resolve all 70 of the items. It was an impressive effort and the subcontracting community praised the outcome.

"Herb Mumford, Engineering director, and his staff, specifically Neil Snyder and Ann Koplow, have been very helpful in this effort," Howanitz said. "By the end of this summer, as an example, a contractor will be required to submit only one copy of its submittals (vendor data, etc.), either an electronic or hard copy. Then the rest of the process will be paperless — we're even going to make the data available to our subcontractors and end-users via the Web."

Previously, INEEL required subcontractors to supply a minimum of eight hard copies of submittals, which added to construction costs and frustration. In this and other ways, Construction Management is committed to driving the costs down and providing better value. It's building a better INEEL and bringing new opportunities to the Site.

## Bechtel funds help create 41 jobs in Salmon

Checks totaling nearly \$40,000 to eight Salmon businesses will help create 41 new jobs in Salmon and Lemhi County.

The money comes from the corporate offices of Bechtel as part of its commitment to manage and operate the Idaho National Engineering and Environmental Laboratory.

Salmon Mayor Stan Davis is excited about the funds because, as he said, "It's new money.

With partners like Bechtel helping out during economic distress, in a rural community this is a win-win not only for the businesses, but for the entire community."

The businesses receiving financial assistance are Lemhi Valley Social Services, Salmon River Log Homes, Mountain Bird, Jackson Carpet, Digital Design, Jubilee, A&D Specialties and Medical Solutions.



## Technology deployment

# Russians, Americans cooperate to improve D&D operations

by John Walsh  
for iNews

Idaho National Engineering and Environmental Laboratory and Russian scientists are combining and testing technologies that show potential for improving decontamination and decommissioning operations at the Site. Those improvements could include increased worker safety, reduced costs and shorter project schedules.

## The project and the partnership meet the four commitments in the INEEL vision...

The technologies were unveiled in a demonstration for news media July 19 and then scheduled to be deployed at two contaminated facilities, one at TAN and another at PBF in late July.

INEEL's remote-controlled robot, ATRV-Jr., carried two Russian-developed technologies, a Gamma Locating Device (GLD) and the Isotopic Identification Device (IID) in a Large Scale Demonstration and Deployment Project.

All three devices are remotely operated and radio-frequency controlled. Being untethered, they can maneuver freely around corners and into areas that could be hazardous to workers. The two Russian devices transmit information even through thick walls to operators at computer control consoles a safe distance away.

The GLD scans a room and measures the radioactivity levels. It carries a camera that provides video of what is being scanned. The IID identifies the isotopes that are pinpointed by the GLD. Levels of radioactivity appear on a PC monitor in color-coded maps that enable the viewer to pinpoint highly contaminated areas. For the INEEL tests, the IID identified cesium-137, cobalt-70 and americium-241. It can be programmed for other isotopes. The information can be used in planning decontamination and decommissioning work to keep worker exposures to radiation at a minimum.

Following the deployment in the contaminated facilities, the U.S. Army Corps of Engineers will do a cost-benefit analysis of the test results. They will compare the systems to current technologies evaluating reliability, safety, cost-effectiveness, waste generation or reduction, radiation exposure and schedule. This information will help determine if the new technologies are better than current ones and if they could improve the success or completion of a project. The information, once finalized, will



be available to other DOE and commercial sites.

Paul Kearns, INEEL vice president and deputy laboratory director, says the project and the partnership meet the four commitments in the INEEL vision. These are to deliver science-based engineered solutions for DOE missions, to complete environmental cleanup using innovative science and engineering capabilities, to provide leadership and support to make the most of Environmental Management's investments and strategic partnerships and to enhance the INEEL's science and technical talent, facilities and equipment.

He says, "Ultimately, our aim is to fully use the Lab's operational experience and R&D

capabilities to resolve national and international environmental and waste management needs. We are building partnerships and signing cooperative agreements to bring together diverse technical knowledge and experience for science and technology. By joining with other parties, we can pool resources, share costs, draw on combined strengths and leverage each other's unique capabilities."

The technology demonstration is sponsored by the DOE's Environmental Management International Program and the Decommissioning Focus Area and funded and managed through the DOE's National Energy Technology Laboratory in conjunction with DOE-Idaho.



Ron Paarmann photos

PN01-318-3-15a

**Russian scientist Nikolai Sidorkin (left), director of the Research and Development Institute of Construction Technology Robotic Center, through an interpreter, Sergei Silichtchev, describes the technologies to be demonstrated. At the head table are (right to left) Paul Kearns, INEEL deputy laboratory director, Warren**

**Bergholz, DOE-Idaho deputy manager, Ralph Carabetta, DOE National Energy Technology Laboratory deputy director, and Carolyn Mascarenas, Environmental Management Integration Program director.**

Controlled document review process

# First Six Sigma success at the INEEL

by Debra Kahl  
iNews staff

Six Sigma has hit its mark at the Idaho National Engineering and Environmental Laboratory. It's been successfully applied to a troublesome INEEL process with a resulting reduction in cycle time and cost.

Six Sigma is a recognized business improvement management system to cut costs and improve productivity. The INEEL adopted the approach about eight months ago, and several "black belt" leaders have been trained to use Six Sigma throughout the Laboratory.

Keven Mabe, a full-time process improvement project black belt, recently led a team of employees in using Six Sigma tools and methods to streamline the controlled document review process. "Six Sigma helped us focus on the real problems," he says. "We probably wouldn't have achieved success without the tools



Keven Mabe

and methodology."

The problems associated with the process dealt with time and cost. "During the past two years, the controlled document review process at the INEEL has taken an average of twelve weeks to complete," Mabe says. "Our objective was to improve the change process, cutting cycle time in half and saving \$180,000."

Over a period of several weeks,

Mabe helped Gail Brown, Brad Holder, Suzette Horton, Tammy Larson and Jacquie Lewis thoroughly "scrub" the controlled document review process by applying the Six Sigma evaluation tools. As a result, they were able to slash the review process cycle time from 12 weeks to 12 days and the entire document change process from six months to nine weeks. The improvements take work out of the process at the rate of \$3.8 million annually.

Lewis had high praise for Six Sigma. "It was a great process," she says. "The tools really help you discard the perceived problems and help you identify the true problems."

She said Mabe's expertise in Six Sigma and his unfamiliarity with the process helped those intimately involved with the process. "He helped us uncover the real problem areas. I don't think we would have gotten there without the tools and without Keven."

As a result, the team discovered the many non-value-added steps that added time and cost to the document review process. Now, the Standards Based Management System (SBMS) project is making sure the process works well for the people who have to implement it. The project plans to roll out the new process in September.

"That's the beauty of Six Sigma," says Mabe. "It takes work out of the system and makes processes better. It gives a systematic way of looking at things and leads you in the right direction."

Now, Mabe is turning his efforts elsewhere in the company. He and two other black belts — Marty Litus and Michael Stimak — are leading up various teams to "unburden" other INEEL work processes and systems. They are being used extensively in the INEEL's restructuring activities and are being aided by about 35 "yellow belts."

Service anniversaries

June

35 years — Lynn Dean, Darwin Grigg, Daniel Wessol

30 years — Margaret Kelly

25 years -- Kenneth Anderson, Ray Berry, Robert Gonzales, Richard Hawk, Tammy Larson, Karl Meng, Kurt Wagner

20 years — Donna Altman, Randy Bowman, Jeffrey Bryant, Shanna Casper, David Falkingham, Susan Gihring, Ted Lewis, Colin Peterslie, Charles Urbanski, Mitch White, James Wilson

15 years — Mark Adams, Robert Adolfson, Delwin Allred, Pamela Barr, Kent Browning, Michael Chapple, Kirk Clark, Brett Dabell, Barbara Grinnel, Robert Gunderson, Robert Guymon, Billy Hocking, Bruce Hooper, Barbara Johnson, Sara Malm, Clayton Marler, Ryan McAfee, Gary McFadden, Wallace McNeel, Phillip Mecham, Ken Minnix, Jason Orme, Steven Palmer, John Poloski, David Schoonen, Lisa Sehlke, Linda Sorensen, Ray Stults, Sondra Tyler, Rod Welch, Steven Wells, Leslie Winn, Richard Yamasaki

10 years — Steve Aitken, Matt Allred, Brian Andersen, Richard Antill, Connie Bates, Kerry Blanchard, Mike Blang, Christine Buss, Saul Chessin, Brent Dial, Douglas Frickey, Lane Goodwin, Virginia Holtzclaw, Mary Howick, John Howze, Todd Lewis, Karen Lewis, Thomas Middleton, George Morrison, Robert Murphy, Paul Nelson, John Price, Dennis Raunig, Roger Redford, Johnathon Roy, Brian Runz, Robert Sant, Jim Schmalz, Darrin Smith, Curtis St. Michel, James Stalnaker, Jon Stedtfeld, David Underwood, Carl Unsworth, Edward Waters, Lannie Workman, Wade Yearsley

## MILESTONES

5 years — Joseph Landis, Travis McLing

July

35 years — Larry Siefken

30 years — Cheryl Calico

25 years — Douglas Akers, Allan Christensen, Anita Conley, Rudy Cordova, James Fincke, Kenneth Lamb, Melvin Larsen, Maurice Ross, Jody Streier

20 years — Gerald Gibeault, Steven Henline, Richard Holman, Delbert Johnson, Gary Makey, Joseph Mann, Robert E. Marshall, William D. Nelson, Phillip Schow, Peggy Shiffer, Eric Swisher

15 years — Rocky Allen, Jeffery Andersen, Merle Burnham, Don Cox, Jerrald Croft, Norm Free, E. Laura Garcia, Jayme Hanson, Robert K. Jones, David Konvalinka, Richard Laing, Robert McCann, Theodore Mickelsen, Kathryn O'Donnell, Garth Olsen, Joy Rempe, Mark Scroggum, William Steele, Randell Strong, Diane Stults, Colleen Wauhob

10 years — Kenneth O. Bailey, Charles Barrant, David Blumberg, Donna Cole, Barbara Delimont, Kent England, Earl Ferrin, G. Bradford Fox, Christopher Ischay, Robert Kinoshita, Gary Koyama, Jack Lagerquist, Wray Landon, Gaylen Long, Blake Maxfield, Karen Miller, Roger Mockli, Beverly Novak, Rick Olson, Larry Scott, Paul Sentieri, Lester Shepherd, Randall Shikashio, James Siepert, Melody Speer, Brenda Summers, Charles Thomas, Margo Toulouse, Paul Watrous, Gary Williams, Christopher Wren,

Wilfred Wyland, Timothy Yoder, Jerry Young

5 years — Mark Delwiche, Kevin Leavitt, John Olson, Laura Yates

August

35 years — Brent Schofield

25 years — Steve Birrer, Michael Heiser, Cindie Jensen, Val Jorgensen, Gordon Loveland, Arlon Miskin, H. Wayne Smith, Marvey Welch, William Winder, Howard Wood

20 years — Max Christensen, Richard Gurley, Nila Hatton, Richard Knighton, Mark Marchant, Jeffry Rich, Eloise Snell, Isis Tawfik, David Turner

15 years — John Cummings, A. Craig Davis, Ray Enge, Alan Kirsch, Miles Lawrence, Ronald Olsen, Daryl Ropp, Jamie Stuart, Christopher Woodall

10 years — Dayle Barrow, Garth Barrow, Steven Bird, Matt Brandley, Edward Brown, Terri Dockstader, Lawrence Elg, David Fiedler, Corrina Green, K. Jean Holdren, Penny Howe, Jerry Ivie, Thomas D. Larson, Michael McKellar, Maria Miles, Bruce Munson, Keith Nelson, Tracy Nelson, Jared Neumeier, M. Kent Roberts, Richard Schuman, Lin Snoderly, Lyle Stephenson, Beth Streeper, Richard Waters

5 years — Joel Detonancour, Robert Foster, Richard S. Leavitt, Evan Myler, Damon Nicholls, Brandon Speirs, Lisa Marie Trautner

Newly hired employees

Joseph Boyle, Shane Cherry, D. Craig Cooper, Don Fox, Merville Greenidge, Chris Midget, Kenneth Milmine, Richard Nugent, Tim Reeht, Edward Seabury, Andrew Shewmaker, Bernadine Sikorski, Tim Smith, Robin Vanhorn

# INEEL collaborates on technology with Oak Ridge, Hanford

by Reuel Smith  
for iNews

In an effort to explore new responses to yesteryear's environmental challenges, two of DOE's national laboratories, the Idaho National Engineering and Environmental Laboratory and the Oak Ridge National Laboratory, recently signed a Memorandum of Collaboration.

INEEL Lab Director Bill Shipp says the purpose of the agreement is "to strengthen each Lab's capabilities and jointly develop new programs to meet the science, technology and operational needs of DOE's environmental quality mission."

The six-page agreement contains two sections. The first section, signed by each Lab director, describes the focus and funding requirements of the business relationship and how it can be modified to relate to the broader aspects of DOE's missions.

Associate INEEL Lab Director Paul Kearns signed the addendum to the agreement along with his counterpart at ORNL identifying areas that promise rapid progress in using each Lab's resources and independent efforts.

Three focus areas are contained in the addendum:



**Lab Director Bill Shipp (seated at right) and Associate Lab Director Paul Kearns pause after signing the Memorandum of Collaboration to discuss its importance to the INEEL.**

- Long-term stewardship — The Labs agree to collaborate and use their complementary capabilities and strengths in support of INEEL's overall leadership in developing science and technology for this critical DOE initiative.

- Subsurface science — Collaboration continues between the Labs for research related to subsurface science,

bioremediation and DOE's Environmental Management Science Program.

- Waste and materials treatment and disposition — The Labs collaborate on treatment of INEEL's sodium-bearing waste and calcine inventories; characterization of ORNL's transuranic waste streams and management of orphan nuclear materials; and meet national

science and technology needs concerning high-level waste treatment and complexwide disposition of nuclear materials.

The labs also agreed on the following actions to identify and implement collaborations related to aspects of DOE's missions: form a senior Collaboration Coordination Group to identify key collaborations; share lab visits and presentations by Lab science and technology leaders on capabilities and plans; establish technical working groups; and develop and submit joint research proposals.

Funding for this collaborative effort will be shared — with each lab supporting respective staffs and agreeing to pay one another for direct services, if rendered.

Similar collaborative agreements are in place between the INEEL and DOE installations at the Pacific Northwest National Laboratory, Argonne National Laboratory and Savannah River Site. Discussions for yet another agreement are under way with Sandia National Laboratory.

The results of these and previous science and technology collaborations contributing to solutions are listed in the INEEL's Technology Catalog, which can be found at the following Web address: <http://tech.inel.gov/>.

by Kim Cole  
INEEL Communications intern

The Department of Energy's Idaho National Engineering and Environmental Laboratory has shipped an INEEL-developed technology known as the Excavation Monitoring System to aid the Fernald Environmental Management Project with its cleanup efforts.

The Fernald project, a superfund site in Cincinnati, Ohio, managed by Fluor Fernald, is in the process of decommissioning and decontaminating a former uranium production facility.

The system will be used to help Fernald management determine appropriate measures needed to displace, sort, treat and remove several thousand cubic meters of potentially contaminated material.

INEEL representatives traveled to Cincinnati for a week in June to help Fernald receive and begin implementing the system for environmental restoration activities. Acceptance testing was also conducted during the week-long visit.

Mike Carpenter, INEEL EMS project manager, said, "The management at Fernald has deemed the INEEL's continuous four-year effort to enhance the progression of their closure project an unqualified success and stressed that the current work should be used as an example of successful collaboration within the DOE site complex."

The system is based on a similar prototype known as the 'Warthog,' previously demonstrated at DOE's Mound facility in Ohio and in the United Kingdom during 1997 and 1998. With the EMS, improvements have been made to the basic hardware design, reliability of the software code, advanced computer hardware and positioning systems, and in

simplifying the coupling system. The system is also much lighter and more resistant to changing environmental conditions.

The INEEL and Fernald are now discussing and developing a Memorandum of Understanding that will aid Fernald with its 2010 cleanup commitment. Both facilities hope the new relationship will expand existing support and enhance Fernald's base of knowledge. Using INEEL's technical assistance, scientific understanding and unique processes, Fernald's closing schedule will be accelerated, over-all cost decreased, and a solid long-term stewardship program ensured. The collaboration is part of the INEEL's role as the nation's Environmental Management Lead Laboratory.

Fernald has identified specific areas for assistance in the MOU, including: long-term stewardship, decommissioning and decontamination, waste generator services and environmental restoration.

Representatives are working on terms for the MOU that will benefit both sites and safely restore the Fernald site to serve the needs of the community. INEEL representatives will return to Fernald in August for more intensive training on the EMS system.

The INEEL has supported the Fernald Project in the past by contributing the INEEL-designed sodium iodide detector and high-purity gamma spectrometer operating systems, which were integrated into three Fernald data systems: Radiation Tracking System, Gator System, and Radiation Scanning System. Over the past four years, these systems have saved the Fernald Project several million dollars in cleanup operating costs by eliminating hand-collected samples.

For more information, visit the Technology Catalog at <http://tech.inel.gov/>.



**INEEL's Lyle Roybal, at top above, assists Fernald technician Jerry Smith to install a detector used in the Excavation Monitoring System, which works to gather data from a radioactive contaminated area in photo below.**





# EBR-I designer

## Nuclear pioneer Walter Zinn passes away

by Dave Jacqué

### Argonne National Laboratory

Walter Zinn, Argonne's first director and a pioneer in nuclear physics and reactor development, died Feb. 14, 2000, of a stroke in Clearwater, Fla. He was 93.

Zinn was a part of the team who designed and witnessed the world's first self-sustaining nuclear reaction Dec. 2, 1942. His breeder reactor design became common in U.S. nuclear submarines, and the boiling water reactor he developed served as the prototype for commercial nuclear reactors all over the world.

### First director

He served as the first director of Argonne National Laboratory from 1946-1956. After leaving Argonne, Zinn formed a nuclear engineering consulting company, from which he retired in 1970. He served as an advisor on nuclear energy for presidents from Dwight D. Eisenhower through Richard Nixon.

Zinn's background of academic and practical experience, combined with a hard-driving personality, helped the fledgling laboratory off to a strong start.

Under his direction, the nation's first national laboratory grew from a reactor research group housed at several sites to a world center for both reactor design and development and basic science, including environmental studies, biology, chemistry, physics, computers and metallurgy.

During Zinn's tenure, the laboratory developed and built several new reactor designs including Experimental Breeder Reactor-I and CP-5.

### INEEL landmark

Zinn designed the Experimental Breeder Reactor-I — the first nuclear reactor to produce electric power (Dec. 20, 1951) — in Idaho at the National Reactor Testing Site. EBR-I is a National Historic Landmark for its many achievements.

In 1953, it was the first nuclear reactor to demonstrate the breeding principle — that reactors can generate more nuclear fuel than they consume. In November 1963, EBR-I became the first nuclear reactor to achieve a chain reaction with plutonium and the first to demonstrate the feasibility of using liquid metals at high temperatures as a reactor coolant. EBR-I was nicknamed "ZIP" for

"Zinn's Infernal Pile."

CP-5, the fifth reactor in the Chicago Pile series, operated at Argonne from 1954 to 1979, providing neutrons for experiments that probed the structure of solids and liquids. CP-5 was a heavy-water-moderated, highly enriched uranium-fueled thermal reactor.

### Nuclear power beginnings

Zinn worked with Leo Szilard at Columbia University on the Manhattan Project, then moved with the project to the University of Chicago. A principal assistant to Enrico Fermi, he oversaw the construction of Chicago Pile-1 in a squash court at the university.

Zinn devised a weighted safety rod moniker ZIP that would automatically trip if the reactor core became too energetic. Zinn stood by with an emergency ZIP, tied to the balcony rail, ready to operate it by hand if needed. It was not.

Zinn received a special commendation from the U.S. Atomic Energy Commission in 1956. He received the Atoms for Peace Award in 1960 and the Enrico Fermi Award in 1969.

# INEEL workers complete two cleanup projects

Workers at the INEEL completed a major cleanup project at the Test Reactor Area, and are preparing the cleaned-up area for new neutron experiments.

The cleanup project at TRA was finished ahead of schedule and under budget. At Test Area North, a second major cleanup was completed at the Process Experimental Pilot Plant.

A project team at TRA decontaminated, dismantled and removed an aerosol system test platform from the canal below floor level in Building 654. The newly cleaned space is getting a second life as a neutron experiment area.

"The people made the project," said Leonard Hutterman, project manager. "Their teamwork and focus got it done on time and without a single worker injury."

The 40-person project involved engineering staff, health physicists and radiological control technicians, workers conducting the decontamination and dismantlement, safety experts, hoisting and rigging specialists, heavy equipment operators and construction and subcontract employees.

The team removed a 900-gallon stainless steel vessel with four-inch thick walls from a concrete canal inside a building at TRA. The vessel weighed more than 20,000 pounds and had to be cut into two pieces for safe removal. The empty canal was then cleaned. Workers faced hazards such as removing lead-based paint and fixed radioactive contamination on the canal walls, along with the physical hazards associated with cutting the vessel in half and lifting and removing the two five-ton pieces.

The canal has been filled with gravel, which serves as a radiation shield, and is ready for reuse.

INEEL will test variations of the Portable Isotopic Neutron Spectroscopy (PINS) system in this area. PINS uses neutrons to chemically analyze the contents of sealed containers. PINS has received a number of prestigious national awards for its innovative technology.

Employees use some neutron analysis methods to determine the contents of waste drums that INEEL is preparing and shipping to the Waste Isolation Pilot Plant in New Mexico. Experiment results may help scientists better monitor waste now in the ground at the INEEL.

Gus Caffrey, who helped invent PINS, is excited. "Currently, PINS uses a radioactive neutron source that can never be turned off, but neutron generators are switched on and off like an electric light, a notable safety feature," Caffrey said. "The higher-energy neutrons emitted by the generator will help us expand the list of chemicals that PINS can identify."

At PREPP, a second major cleanup project cost \$800,000 and took eight months to complete. PREPP was a demonstration facility for treating and immobilizing in a grout mixture certain waste that did not meet disposal criteria.

Following a single campaign in 1988, PREPP was never used again. The 9,000-square-foot facility was placed in standby in 1989 when government design criteria for such facilities changed.

# Enterprise Architecture helps manage investment in Information Technology

The INEEL has a significant investment in Information Technologies.

Yet information concerning IT is sometimes difficult to locate. One of the goals of the Enterprise Architecture effort is helping manage this investment and providing information to assist Information Technology decisions.

Previous articles have provided an overview of the business, data, application and technology layers of the Enterprise Architecture. These can be reviewed through the Enterprise Architecture home Web page, which you can access from the iHome page under Information Technology.

Many employees are faced with tasks or decisions requiring them to know where data is stored, or what applications to use for certain functions. Sometimes it takes hours to find someone who knows details about an application.

Another question is, "What technologies is the company supporting?" Ron Raymond, EA team member, says the Enterprise Architecture team gathers and disseminates this type of information.

Information Technology professionals, business process owners, project managers and others can use the information to understand the company IT investments. The architecture information is divided by end-user viewpoints, including Management, IT architects, system developers, technology users and general users. All can view the IT information and gain valuable knowledge concerning their specific requirements.

Besides gathering and disseminating IT-related information, the EA team is responsible for overseeing the direction of the IT investments by reviewing any new application development to ensure it uses company IT standards.

If you have any questions, contact one of the EA team members; Phil Lau (526-9352), Paul Fairbourn (526-0284), or Corky Rohm (526-0891). Visit the EA Web page at <http://juneau:81/earch/start.html> within the Information Resources home page.

# INEEL wins national award for preventing the generation of liquid radioactive wastes

The Idaho National Engineering and Environmental Laboratory received a prestigious national P2 (Pollution Prevention) award for reducing the volume of liquid radioactive waste it generates while saving the Department of Energy more than \$6 million in the past year.

"This award is a solid example of why the INEEL was chosen to be the DOE lead laboratory for environmental management," said Bernie Meyers, INEEL president and general manager. "Our contract with DOE is the reason for what we do here. Our people are the reasons why we do it better than anyone else — and we save the taxpayers a lot of money along the way."

The P2 award recognizes a joint effort by two INEEL waste operations teams for a program called "Kinking the High-Level Hose — Waste Reduction at the INTEC Tank Farm." The teams used leading-edge technologies to reduce the amount of liquid waste generated and stored at the Idaho Nuclear Technology and Engineering Center.

Using a variety of methods, the waste reduction team under Rick Demmer, supervisor, and the INTEC operations team under Mitch White, manager, avoided generating more than 45,000 gallons of liquid waste at a cost savings of \$6.1 million.

A strippable coating is sometimes used to minimize the amount of liquid generated during decontamination. The coating "ties-up" the contamination, dries and is easily removed as a solid waste.

In other cases, special tools such as a needle

gun and a scabbler (a pneumatic chisel) were used to selectively remove contamination in the least expensive way.

"We found and used the very best technologies, but a lot of the credit goes to our operations workers, who approached every job with care and 'worked smart,'" Demmer said. "Technology does more and works better when highly skilled, thinking workers are the ones who use it."

DOE's Pollution Prevention program stresses the use of materials, processes and practices to eliminate or reduce the generation and release of pollutants, contaminants, hazardous substances and wastes to the environment. The P2 awards are given annually to the most noteworthy and effective pollution prevention projects around the nation.

DOE has established goals for reducing the generation and release of toxic chemicals, all waste types and pollutants. An integrated pollution prevention program has become an essential part of DOE's production, processing, laboratory and waste management operations. DOE has made pollution prevention a key objective, not only in designing new facilities, but also in procuring goods and services.

Hazardous wastes are expensive for the INEEL to handle, dispose of and treat. The radioactive waste liquid reduction team continues to save taxpayers money by finding the cheapest, most effective ways to deal with contamination without generating additional wastes in the process.



**Kathy McCarthy**, INEEL manager of the Nuclear Engineering Design and Research Department, has been selected to participate in the National Academy of Engineering's U.S. Frontiers of Engineering symposium Sept. 13-15 in Irvine, Calif.

The symposium brings together outstanding engineers, ages 30-45, from industry, academia and government to discuss pioneering technical work and leading-edge research in various engineering fields and industry sectors.

This year's 81 participants were nominated by fellow engineers or organizations and were chosen from a field of nearly 170 applicants.

McCarthy came to the INEEL in 1991 and was named department manager in 1998. She has worked in the INEEL Fusion Safety Program focusing on examining the behavior of the plasma-facing components of proposed fusion reactors. She has also directed a number of important experimental projects that have contributed to an understanding of the consequences of fusion reactor accidents.

McCarthy received the 2000 American Nuclear Society's Women's Achievement Award, the International Thermonuclear Experimental Reactor Program Certificate of Merit in 1996 and the Fusion Power Associates Board of Director's Excellence in Fusion Engineering in 1994. She has been an ANS member since 1979 and is chair of the Idaho Section of ANS.



# INEEL leads Actinide Separations meeting

The INEEL and the Inland Northwest Research Alliance served as hosts for the the 25th Actinide Separations Conference in Boise May 14-18.

Ninety-four scientists and engineers from throughout the DOE complex, various universities and foreign entities participated in the conference.

Idaho National Engineering and Environmental Laboratory employees played key roles in the event. INEEL's C. Lee Bendixsen, conference chair, opened the day's activities with a welcoming message followed by a plenary session entitled, "Actinide Movement in the Vadose Zone."

Holding the conference in the Idaho state capital permitted state representatives directly interested in the INEEL to attend.

Other plenary sessions featured lectures by R.C. Hertzog (BBWI, INEEL); C.R. Nichols (Department of Energy-Idaho assistant manager for R&D); J. Fuhrman (state of Idaho INEEL Oversight Office); and J.T. Barraclough (state of Idaho legislative representative). They addressed the INEEL Subsurface Science Initiative with the focus on DOE, the state of Idaho and public perspectives.

Six technical sessions followed during the next three days. They covered a broad range of actinide science in the areas of dispositioning, aqueous processing, actinide stabilization, fundamental actinide chemistry and environmental/subsurface science.

An evening poster session also focused on actinide science. Technical papers and open discussion gave attendees a chance to discuss current problems, experiences, results of research in progress and other issues associated with actinide chemistry,

development and engineering.

The technical program highlighted subsurface actinide transport and was the first known forum to bring actinide scientists together with hydrologists and geochemists.

The conference came to a close by honoring George Vandegrift of Argonne National Laboratory with the 2001 Glenn Seaborg Actinide Separations Award. Vandegrift is a senior scientist at ANL and was instrumental in the development of the generic TRUEX model and implementation of the PUREX process used for treating aqueous chloride wastes at Argonne. Since 1985 he has been leader of the Separations Science and Technology Group in the Chemical Technology Division at ANL.

Following the awards ceremony, banquet speaker Hal Anderson of the Idaho Department of Water Resources described the fate of salmon in the Upper Snake River. He reviewed issues related to salmon recovery and dam breaching in light of power shortages in the Pacific Northwest.

Bendixsen, who had served as an Actinide Separations Conference Advisory Board member since 1984, announced his resignation as the INEEL representative. The board approved Terry Todd as the new INEEL representative.

INEEL employees who were part of the conference organizing committee included Bendixsen; Todd (technical program chair); Arlin Olson (conference co-chair); Sharla Mickelson; R. Scott Herbst; Dean Peterman; Robert Kirkham; Nolan Olson; Patty Tullock; Jack Law and Nick Mann.

**Ann Rydalch**, director of the Mid West Regional Resource Center for Innovations in the Education and Research Initiative Department at the INEEL, has been elected chair of the Federal Laboratory Consortium.

The FLC is a nationwide network of federal labs (over 700) that assists the forum in developing strategies and opportunities for linking lab mission technologies and expertise with the marketplace.

Rydalch has been active in the FLC since 1990 and has been chair of the state and local government committee since 1994. She is a member of the committee's executive board. The FLC has existed since the mid-1970s.



Ann Rydalch



A rapid way to manufacture mass-production molds and an accurate method of metering natural gas at wellheads are being recognized for their successful transfer from the government to the private sector.

The two technologies developed at the INEEL are being honored by the Federal Laboratory Consortium, a tech transfer organization of more than 700 federal labs.

The two technologies — **Rapid Solidification Process Tooling** and the **High-Void Fraction Multiphase Flowmeter** — have been successfully licensed out by INEEL to individual companies for further development and marketing within the last few years. Both technologies offer substantial savings in time and cost.

# INEEL, ISU establish Civil Engineering Dynamics Lab

The Idaho National Engineering and Environmental Laboratory has completed arrangements with Idaho State University to create the Civil Engineering Dynamics Laboratory at the Pocatello campus.

This collaboration, initiated when the INEEL furnished two vibration research instruments to ISU, establishes a training base for engineering students while retaining the best economical capability to meet INEEL vibration testing needs.

## INRA university

ISU is one of seven Inland Northwest Research Associate universities aligned to conduct collaborative research with the INEEL.

The two instruments are vibration-creating machines or "shake tables." Hydraulic pumps vibrate each table, one horizontally, one vertically. When combined in one laboratory, test results from both tables can be superimposed to simulate three-dimensional modeling.

Phil Wheatley, manager of the National Spent Nuclear Fuel Program and also a member of the ISU Engineering Advisory Council, explained that this equipment gives students the hands-on ability to understand vibration theory.

## Vibration research

Lee Robinson, ISU professor in the College of Civil and Structures Engineering, said, "This

makes us one of a very few vibration research facilities in the Northwest. Most universities would be happy indeed to be able to research any vibration problem with this equipment. It lets you do an actual model test; a smaller model would yield only qualitative test results."

Seniors and graduate students will use the Civil Engineering Dynamics Laboratory to research, among other topics, the effects of earthquakes on component structures. Idaho is the second-most seismically active state in the nation after California.

## Grant proposal

ISU engineering professor Habib Sadid has submitted a National Science Foundation grant research proposal based on the capabilities the Dynamics Laboratory will provide ISU.

The initial collaborative project in the lab will test spent nuclear fuel canister dynamics. The National Spent Nuclear Fuel Program at the INEEL is testing the standardized DOE spent nuclear fuel canister to verify its function during transportation scenarios.

ISU students and faculty, working with INEEL applied mechanics researchers Keith Morton and Tom Rahl, will perform the scientific investigations to determine if the impact plate on the end of the canister is not displaced from its original position when subjected to simulated rail transport vibration.

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